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# Effect of Deployment on Use of E-Cigarettes in U.S. Military

ABSTRACT #

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## INTRODUCTION

Tobacco use has been shown to have several detrimental effects on military members. However, newer tobacco products, such as e-cigarettes, have not been studied as thoroughly as traditional cigarettes. Understanding the prevalence of e-cigarette use in military populations, the perception of the health effects of using it, and whether deployment affects the use and perception of it, will allow health professionals to identify service members at risk for tobacco use, develop strategies to counter possible adverse health effects, and better design tobacco cessation interventions. Expanding our knowledge about e-cigarette use will lead to a more thorough understanding of how this behavior impacts the overall health and readiness of our nation's military.

## OBJECTIVE

The purpose of this study was to develop an understanding of how military deployment affects the e-cigarette habit and its associated behaviors among a sample of Army and Air Force service members.

## MATERIALS and METHODS

Information on the prevalence, perception, and use of e-cigarettes, in addition to history of deployment, was obtained by using data from the "Tobacco Use Among Service Members" survey sponsored by the Murtha Cancer Center and the Postgraduate Dental School of the Uniformed Services University of Health Sciences. Data were collected at Joint Base San Antonio - Lackland, TX (July-November 2015) and Womak Army Medical Center, Fort Bragg, NC (March-May 2016). 2500 completed responses were collected. The target population included Army and Air Force service members (active duty, national guard, or reserves) who were 18 years of age or older, had an annual dental check-up at one of the two military installations during the study period, and were willing to complete the survey. The survey was voluntary and anonymous; no personally identifiable information was collected about participants. Statistical analysis of the data obtained from this survey database was performed using SAS. The independent variables were the deployment history (positive or negative) of any location and length of time of the respondent, and the dependent variables were use of e-cigarettes and perception of harm of e-cigarettes compared to traditional cigarettes.



Source: Photo by Mandie Mills, CDC.

## RESULTS

In the study population of 2500 participants, 45% had deployed, 14% had used e-cigarettes, with 5.7% experiencing both. Most users (67%) considered e-cigarettes to be equally or less harmful than traditional cigarettes. Stratified analyses by smoking and perception of harm showed that soldiers deployed to combat units were among those who perceived e-cigarettes to be less harmful than traditional cigarettes (Adjusted OR=0.39, 95% CI=0.18 to 0.83). In multivariate analysis, being deployed to a combat unit was associated with lower odds of using e-cigarettes (Adjusted OR=0.53, 95% CI=0.31 to 0.90).

### Association Between Deployment and E-Cigarette Use in Study Population

Deployment	Never Users	Users
Never	1136	214
Ever	961	140

### Association Between Deployment and E-Cigarette Use Stratified by Perception of Harms

Deployed to combat zone	Never Users	Users
Less harmful than cigarettes		
No	411	148
Yes	258	89
Equal or more harmful than cigarettes		
No	400	38
Yes	354	27
Unit mainly served during last deployment	Never Users	Users
No harm or less harmful than cigarettes		
Never deployed	389	140
Combat support unit	161	50
Combat support and combat unit equally	36	20
Combat unit	72	23
Equal or more harmful than cigarettes		
Never deployed	374	36
Combat support unit	203	14
Combat support and combat unit equally	49	7
Combat unit	114	8

## CONCLUSIONS

Being deployed to a combat unit only was significantly associated with lower odds of e-cigarette use and less perceived harm. The results of this study demonstrate the need for better understanding the health effects associated with e-cigarettes as well as the development of targeted cessation and educational campaigns for specific populations. Future research may include an analysis of specific factors associated with decreased e-cigarette use among those deployed to combat units.